

Linnaeus unite in declaring the mandrill to be the species to which the name of *sphinx* should be given. The "cauda brevis erecta" would in no wise answer for the tail of the red baboon, but describes perfectly the rudimentary one of the mandrill.

Therefore this baboon must be known in the future as *Papio sphinx*, with *S. maimon* given to it by Linnaeus in his twelfth edition as a synonym; and the red baboon from the west coast of Africa, which has always been called *sphinx*, must be known as *Papio papio*, it being the *Cynocephalus papio*, Desmarest ('Mammalogie,' 1820, p. 69), who seems to have been the first to give the species a name other than *sphinx* incorrectly applied by previous writers.

XLVII.—*On some new Plesiosauria from the Oxford Clay of Peterborough.* By C. W. ANDREWS, D.Sc., F.R.S., British Museum (Nat. Hist.).

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IN the course of the preparation of a catalogue of the Plesiosauria from the Oxford Clay of Peterborough it has been necessary to examine the great collection of the remains of these reptiles obtained by Mr. A. N. Leeds, and it has become clear that, in addition to the forms already described, there are several others at present unnamed. Since it will be some time before the Catalogue can be published, it seems desirable to give a brief preliminary account of the more important new types.

The chief genera of Elasmosaurian Plesiosaurs already known from the Oxford Clay are *Muraenosaurus* and *Cryptocleidus*. Of the first of these three species are recognized, viz. *M. leedsi*, Seeley, *M. platyclis*, Seeley, and *M. durobriensis*, Lydekker. Another species referred to *Muraenosaurus* by Seeley is now placed as a separate genus, *Picrocleidus*, the specific name being *P. beloclis*. The remains of *Cryptocleidus* have not been fully examined, but so far only one species, *C. oxoniensis*, is recognized. In addition to the above, it is now proposed to establish a fourth genus, *Tricleidus*, for the reception of a small Plesiosaur presenting some very marked peculiarities both in its skull and shoulder-girdle.

Of the Pliosaurus there are three distinct types, viz. *Peloneustes*, *Pliosaurus*, and a short-snouted form which seems in

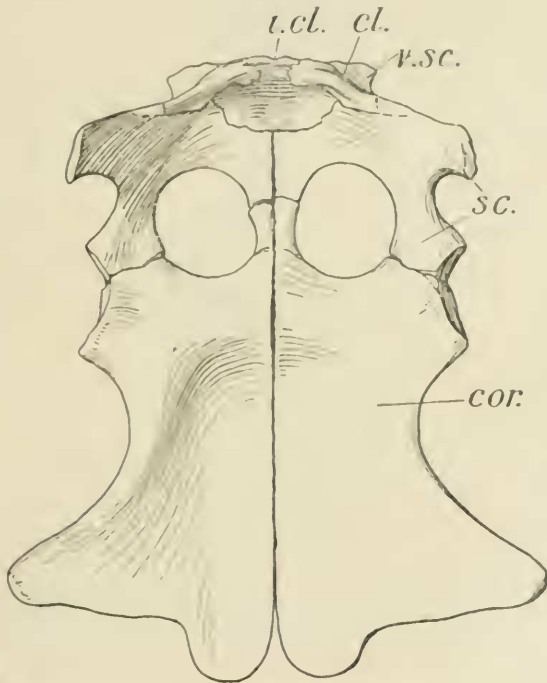
many points to resemble *Thaumatosauros*, but which is probably generically distinct from the animal originally described under that name by von Meyer.

A brief account of the new forms is now given.

TRICLEIDUS, gen. nov.

Small Plesiosaurs in which the skull is short and broad, with twenty teeth on each side (five in the premaxilla, fifteen in the maxilla). Pterygoids bear well-developed processes

Fig. 1.

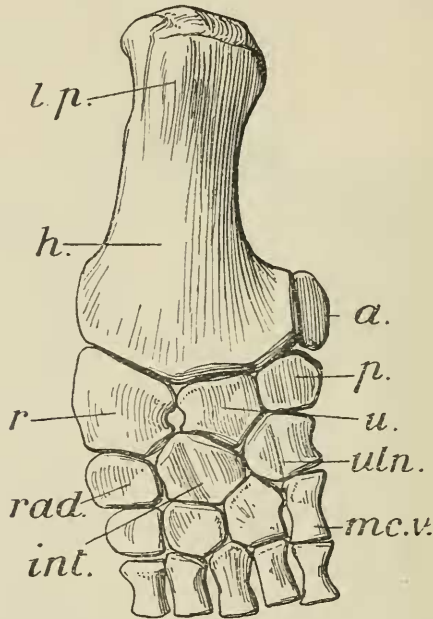


Shoulder-girdle of *Tricleidus seeleyi*, sp. n., from above. (Type specimen R. 3539.) About $\frac{1}{2}$ nat. size. *cl.*, clavicles; *cor.*, coracoid; *i.cl.*, interclavicle; *sc.*, scapula; *v.sc.*, ventral plate of scapula.

for union with the basisphenoid. Parasphenoid broad and abruptly truncated in front. Quadrate region perhaps consisting of two elements (?quadrate and quadrato-jugal).

Teeth long, slender, and very sharp-pointed; anterior maxillary teeth enlarged. Neck rather more than three times the length of the skull and consisting of twenty-six vertebræ, including the atlas and axis; centra short, with strongly concave articular ends, which are much wider than high. The cervical ribs have a prominent anterior angle, which is not, however, produced into a distinct process, as in the next genus. The shoulder-girdle (fig. 1) is of Elasmosaurian

Fig. 2.



Left fore paddle of *Tricleidus seeleyi*, sp. n., from above. (Type specimen R. 3539.) $\frac{1}{4}$ nat. size. *a.*, accessory ossicle; *h.*, humerus; *int.*, intermedium; *l.p.*, lateral process; *m.c.v.*, fifth metacarpal; *p.*, pisiform; *r.*, radius; *rad.*, radiale; *u.*, ulna; *uln.*, ulnare.

type; there is a large interclavicle (*i.cl.*) and a pair of well-developed elongated clavicles (*cl.*).

The humerus (fig. 2) is short and not greatly expanded at its distal end, where it articulates with four bones, viz. the radius, ulna, pisiform, and a small accessory postaxial ossicle (*a.*), probably sometimes wanting. Femur more slender than the humerus and articulating distally with two bones only. :

This genus is represented at present by only one species, for which is proposed the name *Tricleidus seeleyi*, after the late Professor H. G. Seeley, who wrote a number of papers on these Oxford Clay Reptilia. The type specimen upon which the species is founded consists of the greater part of the skeleton of an individual in which, in spite of its small size, ossification was complete, so far as completeness is indicated by the union of the coracoids and scapulae in the middle line (fig. 1), the rounding of the heads of the humerus (fig. 2) and femur, and the fusion of the arches with the centra of the cervical vertebrae. Most of the bones of the skull are separated from one another, but it can be seen that the structure must have been much as in *Murænosaurus*. The teeth in the mandible are particularly well preserved, many of the slender curved crowns being complete. The series of cervical vertebrae seems to be complete; they are twenty-six in all. The shoulder-girdle is complete (fig. 1) and shows the peculiar clavicular arch very well preserved. The fore-paddle (fig. 2) shows the articulation distally with four distinct elements. A detailed account of this skeleton will be given later.

Some dimensions (in centimetres) of the type specimen (R. 3539) are:—

Length of basioccipital	3·4
" from occipital condyle to anterior end	
of parasphenoid	8·8
of mandible	25·0
of atlas and axis	4·0
of sixth cervical	2·3
Width of " "	2·8
Height of " "	2·3
to top of neural spine of sixth cervical .	5·7
Length of shoulder-girdle in middle line	53·0
of interclavicle	6·4
Width of " "	13·8
Length of coracoid	39·6
Least width of coracoid	13·1
Length of humerus	20·7
Width of distal end of humerus	11·8
Length of femur	21·6
Width of distal end of femur	11·3

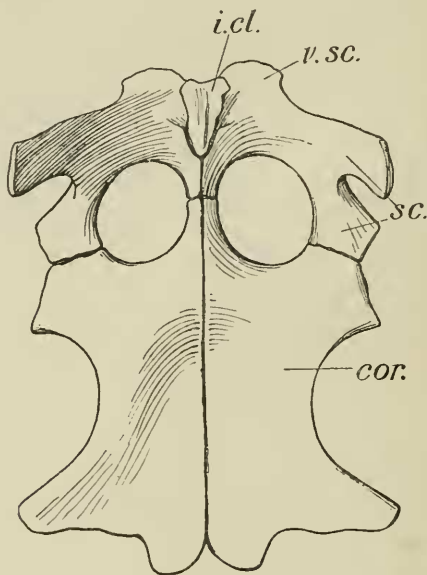
PICROCLEIDUS, gen. nov.

This genus is now established for the reception of Seeley's *Murænosaurus belochis*, which differs from *Murænosaurus* in some important respects. The genus may be defined as follows:—

Small Plesiosaurs in which the neck is composed of

upwards of thirty-nine vertebræ, the centra of which are shorter than in *Murcenosaurus* (especially in the anterior region) and longer than in *Cryptoleidus*. Ends of centra considerably wider than high and almost flat. The single-headed cervical ribs on the anterior part of the neck have a distinct anterior process. Neural spines on anterior part of neck very low, but they increase in height backwards till at the hinder end of the neck they are both wide and high. The shoulder-girdle (fig. 3) is of Elasmosaurian type; the

Fig. 3.



Shoulder-girdle of *Picrocleidus beloclis*, Seeley, sp., from above. (Type specimen R. 1965.) $\frac{1}{2}$ nat. size. *cor.*, coracoid; *i.cl.*, interclavicle; *sc.*, scapula; *v.sc.*, ventral plate of scapula.

clavicular arch consists of a small interclavicle shaped somewhat like an arrow-head; the clavicles, if present at all, are mere films of bone. The humerus is only slightly expanded distally, where it articulates with two bones only, the radius and ulna, which are somewhat elongated.

The only species at present known is *P. beloclis*, the shoulder-girdle and the radius and ulna of which were

described and figured by Seeley in the Proc. Roy. Soc. vol. li. (1892) pp. 142-145, figs. 10-12, as *Muraenosaurus beloclis*. In addition to Seeley's type specimen (R. 1965) the collection includes a second, which in many respects supplements the other—portions of the skull, the anterior portion of the cervical region of the vertebral column with arches and ribs, a number of caudal vertebræ, and parts of a hind paddle being preserved.

The dimensions (in centimetres) of the type specimen (R. 1965) are:—

Posterior cervical vertebra:	
Length of centrum	3·2
Width	4·6
Height	3 (app.)
Height to top of neural spine	12·5
Shoulder-girdle: greatest length	38·2
Coracoid:	
Length	27·7
Width of united coracoids at hinder angle of glenoid cavity	27·8
Width at postero-external angles	23·4
Interclavicle:	
Length	7·0
Width	3·8
Humerus:	
Length	18·3
Width of distal expansion	9·9

Fam. Pliosauridæ.

As mentioned above, this family is represented in the Oxford Clay by the genera *Pliosaurus* and *Peloneustes* and by a new form in which the snout is much less elongated than in the other two. It is possible that this animal may be nearly related to *Thaumatosauros* of von Meyer*, a genus known only from a few fragments of the skeleton from the Lower Oolite of Württemberg. *Thaumatosauros* was redefined by Mr. Lydekker†, but it is almost certain that several of the species, particularly those from the Lias, which he included in it, are generically distinct, and the animal now under consideration does not fall within his definition. On the whole, therefore, it seems well to establish a new genus for this species, particularly as nearly the whole of the skeleton

* Neues Jahrb. f. Min. 1841, p. 176; also 'Palæontographica,' vol. vi. (1856-8) p. 14, pls. iv. & v.

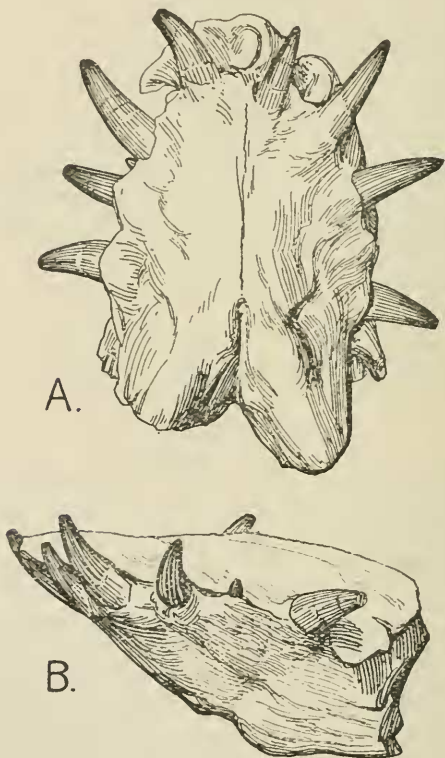
† Cat. Foss. Rept. Brit. Mus. pt. ii. (1889) p. 158.

is known and a fairly complete diagnosis is possible. This genus, which may be called *Simolestes*, is defined as follows:—

SIMOLESTES, gen. nov.

Pliosaurus in which the head is short and broad (fig. 7), the snout not being elongated as in *Pliosaurus* and *Peloneustes*. Mandible with deep massive rami meeting in a short

Fig. 4.

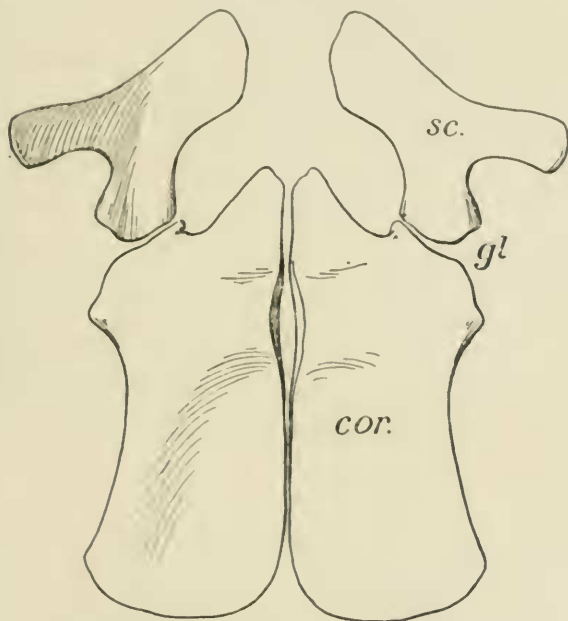


Anterior end of upper and lower jaws of *Simolestes vorax*. (Type specimen R. 3319.) $\frac{1}{4}$ nat. size. A, from below; B, from left side.

symphysis, the ventral surface of which makes a well-marked angle with the direction of the lower border of the rami (fig. 4); the postarticular (angular) region is relatively small.

The teeth are sharp-pointed, curved and circular in section, without carinæ, the enamel being marked by a series of fine longitudinal ridges, a few of which extend to the tip; the ridges are most numerous on the inner (concave) side of the crown. In the mandible there were about twenty-six teeth on each side, closely crowded. The five or six anterior teeth in the expanded symphyseal region are enlarged. The neck is short, consisting of about twenty cervical vertebræ, the

Fig. 5.

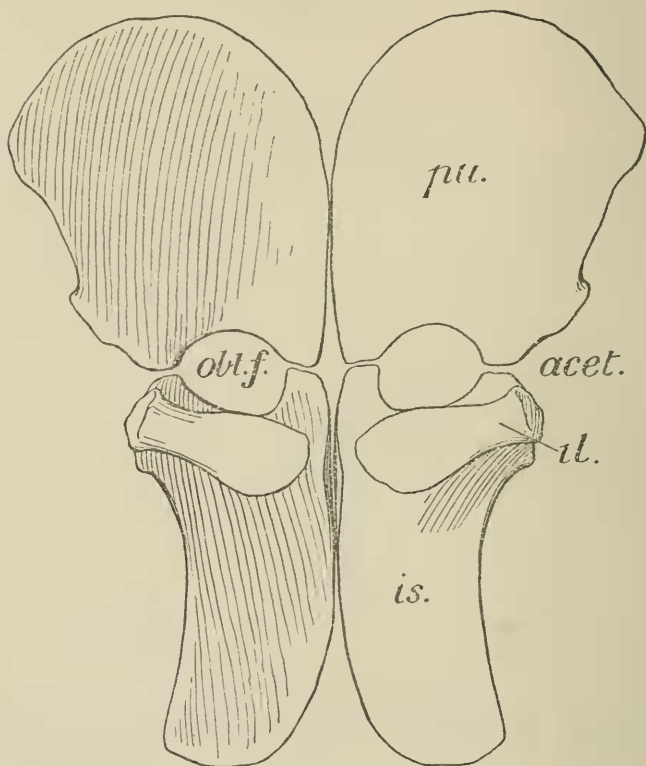


Shoulder-girdle of *Simolestes vorax* from above. (Type specimen R. 3319.) $\frac{1}{7}$ nat. size. *cor.*, coracoid; *gl.*, glenoid cavity; *sc.*, scapula.

centra of which are about as wide as high, while their length is less than half the width; the terminal faces are slightly concave. In front the neural arches bear a low spine, but further back they increase greatly in height both through the lengthening of the pedicles and of the spine. The facets for the cervical ribs are double. The coracoids (fig. 5) are large plates of bone, very thin except between the glenoid cavities. Anteriorly they are prolonged forwards in the middle line in

front of their articulation with the scapulæ, forming broad round processes which are thin at the edge and show no signs of having united either with one another or with backward prolongations of the ventral rami of the scapulæ. The scapulæ have broad ventral plates, which, however, do

Fig. 6.



Pelvic girdle of *Simolestes vorax* from above. (Type specimen R. 3319.) $\frac{1}{17}$ nat. size. *acet.*, acetabulum; *is.*, ischium; *obt.f.*, obturator foramen; *pu.*, pubis.

not meet on the middle line, nor, as already remarked, do they join the anterior prolongations of the coracoids. The clavicular arch is not known. The humerus, which is shorter than the femur, has a more clearly defined expansion at its distal end than is found in *Pliosaurus* or *Peloneustes*,

and rather resembles the humerus of *Marconosaurus*. The radius and ulna are large and are longer than wide; they enclose a large oval opening between them.

The pelvis (fig. 6) and hind limb, as in other members of the family, are very large. The pubes are very large thin plates of bone, the anterior ends of which are broadly rounded; in the middle line they meet in a suture. The posterior borders are concave, forming the anterior boundaries of the obturator openings. The outer borders in front of the glenoid surfaces are also slightly concave. The ischia, as in the other members of the family, are greatly elongated; in the middle line they meet in a long suture; their hinder extremities are rounded and the outer borders gently concave. The anterior edges are concave and form the hinder borders of the obturator foramina. The head bears three facets, the posterior one for the ilium, the middle one forming the middle part of the acetabulum, the anterior uniting with the pubis. The ilium is much crushed in the type specimen, but it seems to have been considerably expanded both at its upper and lower ends. The femur is larger than the humerus, and, like it, is expanded distally to a degree not seen in *Pliosaurus* and *Peloneustes*. The posterior border of the shaft bears deep grooves and strong ridges for the attachment of muscles; the trochanter is well developed. There was an armour of ventral ribs, but these are not well preserved.

Only one species is at present known.

Simolestes vorax, sp. n.

Type specimen.—The greater part of a skeleton, including skull (fig. 7), mandible (fig. 4), vertebral column (much crushed), pectoral girdle (fig. 5), and parts of the fore paddles, pelvic girdle (fig. 6), and parts of hind paddles; some ventral ribs. (R. 3319.)

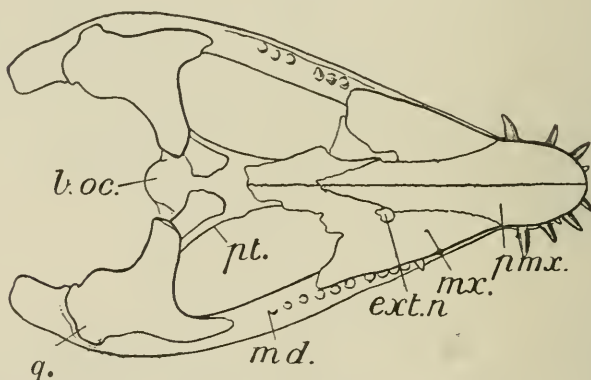
In this specimen the characters given above in the definition of the genus are well shown. The skull is much crushed, the posterior part being imperfect, while the anterior portion has been forced down upon the mandible, so that the points of some of the mandibular teeth completely pierce it. The maxillo-premaxillary suture appears to run in behind the fifth or sixth tooth, and the facial processes of the premaxillæ extend back about as far as the anterior border of the orbits, where they join the frontals. External to the premaxillæ and frontals at their junction is a distinct bone, which may be the prefrontal. The quadrates are very large and the articulation for the lower jaw very wide. In the mandible there are six teeth in

the symphyseal region, and of these the second to the fifth are very large. Behind the symphysis the first three or four teeth are small, then there are seven or eight larger ones, and behind these there is gradual diminution to the end of the series. The ventral surface of the mandibular rami just where they unite at the symphysis form massive ridges, terminating in prominent angles (fig. 4).

In the type specimen the twenty cervical vertebræ are for the most part crushed and obscured with matrix; but it can be seen that the anterior members of the series are very large. The dorsal vertebræ were about thirty-two in number; they are greatly crushed and distorted, and have lost the neural arches; about eighteen crushed caudal vertebræ are preserved.

The shoulder-girdle (fig. 5), with the exception of the clavicular arch, is fairly well preserved; it is especially

Fig. 7.



Imperfect skull and mandible of *Simolestes vorax* from above. (Type specimen R. 3319.) $\frac{1}{12}$ nat. size. *b.oc.*, basioccipital; *ext.n.*, external nares; *md.*, mandible; *mx.*, maxilla; *pmx.*, premaxillæ; *pt.*, pterygoid; *q.*, quadrate.

remarkable for the extreme thinness of the coracoids, except between their symphysis and the articular surfaces for the humeri. The humeri are fully ossified, the head being rounded and the lateral processes well developed; the posterior borders of the shaft bear strong ridges for the attachment of muscles. The radius and ulna are relatively long; they articulate distally with three bones.

The pelvis (fig. 6) is very large, the total length in the mid-ventral line being 120 cm. The pubis is a great plate of very thin bone, and the ischium, as in the other Pliosaurus, is much elongated. The femur, like the humerus, is fully ossified, and bears strong ridges for muscle attachment. The tibia and fibula are much like the radius and ulna.

This skeleton will be completely described and figured in the 'Catalogue of the Marine Reptiles of the Oxford Clay.'

Some dimensions in centimetres of the type specimen of *Simolestes vorax*:—

Skull:	
Length from occipital condyle to tip of snout ..	73.0
Width between outer ends of quadrates	51.0
Mandible:	
Length	97.0
" of symphysis	17.3
Middle cervical vertebra:	
Length of centrum	3.2
Width "	7.9
Height "	7.9
" to top of neural spine	21.0
Humerus:	
Length	43.0
Width of distal expansion	21.8
Coracoid:	
Greatest length	71.0
Width at narrowest	32.0
" between glenoid cavities (as mounted) ..	65.0
Ilium: length	31.0
Pubis:	
Length	60.0
Width	48.0
Ischium:	
Greatest length	61.0
Width at glenoid cavity	32.0
Femur:	
Length	50.0
Width of distal expansion	27.5

XLVIII.—*Descriptions of Three new Fishes from Portuguese Guinea.* By G. A. BOULENGER, F.R.S.

DR. W. J. ANSORGE, to whom African ichthyology is indebted for so many discoveries made during the past ten years, had occasion during a recent short visit to Portuguese Guinea to procure a few fishes which are of considerable